



PATENT ABSTRACTS OF JAPAN

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(71) Applicant: JATCO CORP

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(72) Inventor: MORIMOTO YOSHIRO

(54) CONICAL CLUTCH DEVICE FOR AUTOMATIC TRANSMISSION

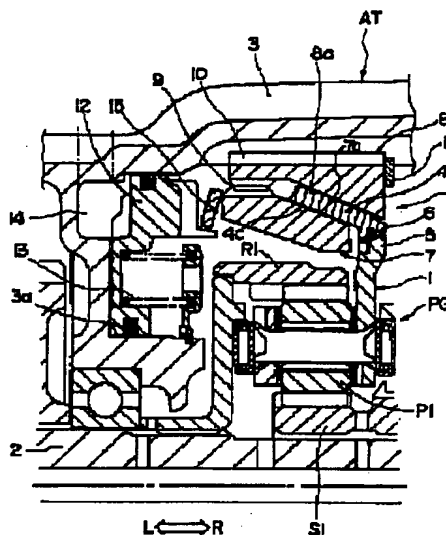
pressure chamber 14 by reversing torque of the carrier 1, the carrier 1 is fixed to a case 3.

(57) Abstract:

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PURPOSE: To perform constant regulation of rotation in a given direction and selective regulation of opposite rotation by providing an annular first member having a conical friction surface, an annular second member engageable with the annular first member, and an actuator reinforcing engagement between the two annular members.

CONSTITUTION: When an oil pressure is not fed to a pressure chamber 14, a press force is not exerted on an inner ring 7 from a piston 12 by a return spring 13 and rotation torque of a planetary carrier 1 is transmitted to the inner ring 7 through a second friction surface 7a engaged with the first friction surface 4c of an intermediate member 4 and further to an outer ring 8 through a helical spline 9. During normal rotation of the carrier 1, the intermediate member 4 is nipped between the friction surface 7a and the nip friction surface 8a of an outer ring 8 by means of thrust and the carrier 1 is fixed to a case 3. During reversing of the carrier 1, the inner ring 7 is separated away from an intermediate member 4 by means of thrust and the carrier 1 is rotated. When an oil pressure is fed to the





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B23P 23/00**B23D 37/00**(21) Application number: **58165607**(71) Applicant: **ISHIKAWA TEKKO KK**(22) Date of filing: **08.09.83**(72) Inventor: **NISHIO YOSHIHISA****(54) PROCESSING METHOD FOR INNER DIAMETER
TAPERED SERRATION**

of the boss at assembling a sector shaft, thus enabling the amount of sink to be reduced.

(57) Abstract:

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PURPOSE: To reduce the amount of sink of a pitman arm by forming a straight separation in a boss part and expanding and opening it by forcibly inserting a tapered punch into said serration part, in the captioned device of the pitman arm of a vehicle steering.

CONSTITUTION: A hole 23 having an internal diameter d_1 - Δd_1 ' is drilled in a boss 9 leaving behind a marginal part Δd_1 for broaching cut in a tapered serration small diameter end internal diameter d_1 '. This hole part is subjected to broach cut to obtain a straight serration 24 having the approximately the same diameter as the small diameter end of the internal diameter tapered serration. Then, the tapered punch 22 is forced into the serration part to expand and open it until a serrated edge outer diameter d_2 ' becomes approximately the same as an outlet diameter of the straight serration 24, and thereafter the tapered punch 22 is pulled out. Processing hardening is promoted due to plastic deformation caused by this forced insertion of the tapered punch, and inner diameter tapered serration ranges, over the whole of the wall thickness

